

REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. The applicant has cancelled the rejected claims 12-22. The applicant has amended claim 23 to have the lower limit as 0.4 as suggested by the Examiner at page 3 of the Office action to avoid the 35 U.S.C. 112, second paragraph rejection. Newly added claim 28 is similar to claim 1 with the exception of using the range 0.01 to 0.50 mol of chlorine. Support for this feature can be found in the specification at page 3, line 27.

The application contains two independent claims (claims 1 and 23). The applicant has added 5 claims (claims 23-28) and cancelled one claim (claim 3). The applicant authorizes the USPTO to charge (\$204.00) for the extra 4 total claims added to the application over twenty.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuazon et al., Journal of Atmospheric Chemistry 17:179-199, 1993 (Tuazon). The applicant respectfully traverses this rejection.

The applicant has three independent claims (claims 1, 23 and 28).

Claims 1 and 23 have not been rejected over the prior art. Claim 28 is broader in scope than claim 1 but the same arguments as previously presented for claim 1 equally apply to claim 28.

With respect to claim 28, Tuazon teaches away from the applicant's claimed invention. Claim 28 requires wherein 0.01 to 0.50 mol of elemental chlorine is present per mole of CHClF_2 (R22) or CHF_3 .

The experiments in the publication of Tuazon are performed at 298K and 740 Torr (= 98,658 Pa) (described at page 181 top). Using these values the ideal volume and the quantity of molecules per cm^3 pure material can be calculated.

calculation ideal volume: 25.11 l / mol (@ 293K & 98658 Pa (Tuazon))

ideal volume **2.39787E+19 molecules per cm^3 pure material**

(1) Calculation of the Cl₂ concentration in Tuazon

(1) In the publication Tuazon the contents of Cl₂ (described at page 183 top) is expressed in molecules per cm³, the amount is **4.1 x 10E+14 molecules per cm³**.

The amount expressed in molecules per cm³ can be converted in an amount expressed in ppm by using the formula $(4.1 \times 10^{14} * 1000000) / [\text{ideal volume (} 2.39787\text{E}+19 \text{)}] = \mathbf{17.1 \text{ ppm Cl}_2}$

(2) Comparison of the R22 concentrations

(1) In the publication Tuazon, the content of CHF₂Cl (R22) (described at page 183 top) is expressed in molecules per cm³, the amount is **1.24 x 10E+14 molecules per cm³**.

The amount expressed in molecules per cm³ can be converted in an amount expressed in ppm by using the formula $(1.24 \times 10^{14} * 1,000,000) / [\text{ideal volume (} 2.39787\text{E}+19 \text{)}] = \mathbf{5.2 \text{ ppm R22 (FORMULA 1)}}$

(3) Comparison molar ratio Cl₂ to R22

(1) Therefore taken the values expressed in ppm for Cl₂ and R22 :
molar ratio Cl₂ to R22 in Tuazon = 17.1 ppm / 5.2 ppm is equal to **3.31**

(2) according to amended claim 1 of the present invention : molar ratio Cl₂ (ranges from 0.01 to 0.50 mol) to R22 (1 mole) which is always **<< 1**.

Therefore, Tuazon teaches away from the applicant's claimed ratio.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13146-00004-US from which the undersigned is authorized to draw.

Dated: August 19, 2010

Respectfully submitted,

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